Amendments to the Claims

1. (Currently Amended) A filter comprising:

at least one multiplier to multiply samples of an input discrete-time signal by a set of filter weights to provide a resulting discrete-time signal, wherein the filter weights are the convolution of a set of Nyquist filter weights with a set of pre-equalizer filter weights; and

at least one adder to add samples of the resulting discrete-time signal~~.~~, wherein each of the at least one multiplier is a 2 bit by J bit multiplier, where J is greater than two.

2.-10. (Cancelled)

11. (Currently Amended) A method to provide Nyquist filtering and pre-equalization, the method comprising:

multiplying samples of an input discrete-time signal by a set of filter weights to provide a resulting discrete-time signal, wherein the filter weights are a convolution of a set of Nyquist filter weights with a set of pre-equalizer filter weights; and

adding samples of the resulting discrete-time signal to provide an output discrete-time signal~~.~~, wherein the multiplication is 2 bit by J bit multiplication, where J is greater than two.

12.-15. (Cancelled)

16. (Currently Amended) A computer system comprising:

a modem comprising

a symbol mapper to provide an input discrete-time signal; and

a filter comprising:

at least one multiplier to multiply samples of the input discrete-time signal by a set of filter weights to provide a resulting discrete-time signal, wherein the filter weights are a convolution of a set of Nyquist filter weights with a set of pre-equalizer filter weights; and

at least one adder to add samples of the resulting discrete-time signal to provide an output discrete-time signal~~.~~, wherein the multipliers are 2 bit by J bit multipliers, where J is greater than two.

17.-18. (Cancelled)